

REMARKS

This application has been reviewed in light of the Office Action dated November 18, 2003. Claims 4, 6 to 12 and 121 are pending in this application, with Claims 13 to 120 having been cancelled. Claims 4, 9 and 12 have been amended and Claim 121 has been added. Claims 4, 9, 12 and 121 are in independent form. Reconsideration and further examination are respectfully requested.

Applicants have just noticed that there were two different claims denominated Claim 13: one included with the as-filed application (and cancelled by the Amendment dated October 10, 2000), and one added by the Preliminary Amendment dated April 24, 2002. The cancellation of both versions of Claim 13 (as well as all of Claims 13 to 120) is hereby confirmed.

Claims 4, 6 to 12 and 14 to 120 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,589,006 (Itoyama) in view of U.S. Patent No. 5,786,086 (Frihart). Claims 14 to 120 have been cancelled without prejudice or disclaimer of the subject matter and without conceding the correctness of their rejection. Reconsideration and withdrawal of the rejection of the remaining claims are respectfully requested.

The present invention is directed to building materials, each of which have a substrate and a solar cell unit fixed to the substrate. The building materials are fixed on a backing material, and electrical conductive leads are arranged between the building materials and the backing material for leading output from the solar cell units to the outside. According to one feature of the invention, two terminal outlet holes are formed on the substrate, and a terminal outlet box is mounted to cover the two terminal outlet holes.

Referring specifically to the claims, Claim 4 as amended is directed to a cladding assembly including a plurality of building materials, each of which comprises a substrate and a solar cell unit fixed to the substrate. Each of the plurality of building materials is fixed on a backing material by a fixing member. The cladding assembly also includes electrical conductive leads arranged between the building materials and the backing material to contact the backing material, for leading output from the solar cell units to the outside. A jacket material of each of the electrical conductive leads is composed of at least one selected from the group consisting of polyethylene resins, polyamide resins, vinylidene fluoride resins, chloroprene rubber, ethylene-propylene rubber, silicone resins, and fluoroelastomers. The backing material contains any one of asphalt resins, vinyl chloride resins, polystyrene resins, and polyurethane resins. The substrate is composed of at least one selected from the group consisting of metals, resins and glass. In addition, two terminal outlet holes are formed on the substrate, and a terminal outlet box is mounted to cover the two terminal outlet holes.

In a similar manner, independent Claim 9 as amended defines the invention in terms of a method.

Independent Claim 12 as amended is directed to an air flowing apparatus including a building material. The building material has a substrate and a solar cell unit fixed to the substrate, and is fixed to a backing material with a space therebetween so that outside air flows in the space, passes through the space and is entrapped in a house or discharged to the outdoors. The air flowing apparatus also includes an electrical conductive lead arranged between the building material and the backing material to contact

the backing material, for leading output from the solar cell unit to the outside. A jacket material of the electrical conductive lead is composed of at least one selected from the group consisting of polyethylene resins, polyamide resins, vinylidene fluoride resins, chloroprene rubber, ethylene-propylene rubber, silicone resins, and fluoroelastomers. The backing material contains any one of asphalt resins, vinyl chloride resins, polystyrene resins, and polyurethane resins. The substrate is composed of at least one selected from the group consisting of metals, resins and glass. In addition, two terminal outlet holes are formed on the substrate, and a terminal outlet box is mounted to cover the two terminal outlet holes.

Newly added independent Claim 121 is directed to a cladding assembly including a plurality of building materials, each of which comprises a substrate and a solar cell unit fixed to the substrate. Each of the plurality of building materials is fixed on a backing material by a fixing member. The cladding assembly also includes electrical conductive leads arranged between the building materials and the backing material to contact the backing material, for leading output from the solar cell units to the outside. A jacket material of each of the electrical conductive leads is composed of at least one selected from the group consisting of polyethylene resins, polyamide resins, vinylidene fluoride resins, chloroprene rubber, ethylene-propylene rubber, silicone resins, and fluoroelastomers. The backing material contains any one of asphalt resins, vinyl chloride resins, polystyrene resins, and polyurethane resins. The substrate is composed of at least one selected from the group consisting of metals, resins and glass. In addition, two terminal outlet holes are formed on the substrate, with a terminal outlet box mounted to cover one of

the two terminal outlet holes, and another terminal outlet box mounted to cover the other of the two terminal outlet holes. An edge of each of the two terminal outlet holes has electrical conductivity.

The applied Itoyama and Frihart patents are not understood to disclose at least the feature of forming two terminal outlet holes on the substrate, and mounting a terminal outlet box to cover the two terminal outlet holes.

As understood by Applicants, Itoyama teaches a solar cell module that is integrally formed on a substrate (roofing plate 107), with the roofing plate 107 being fixed to a roof board 104. The solar cell module includes a solar cell 101 that connects to a power connection cable 113. The solar cell module also includes a back insulating member 109 that has openings 112 through which nails or the like are passed for affixing the solar cell module. See column 6, lines 1 to 10; Figs. 1(a) to 1(d). Although Itoyama discloses the formation of openings 112 on the back insulating member 109, it does not disclose or suggest that the openings 112 are terminal outlet holes. Rather, Itoyama states that the openings are used for affixing the solar cell module. As a consequence, Itoyama could not possibly describe mounting a terminal outlet box to cover the two terminal outlet holes formed on the substrate.

In addition, Frihart has been reviewed and is not seen to compensate for the deficiencies of Itoyama.

Accordingly, based on the foregoing remarks, independent Claims 4, 9, 12 and 121 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 103(a) rejection of Claims 4, 9 and 12 are respectfully requested.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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